

### SM3H 7.2 Law of Cosines & Area of Triangles(odd answers)

1. using law of sines—  $\alpha = 30.2^\circ$ ,  $\beta = 28.5^\circ$ ,  $c = 5.2$ , using law of cosines—  $\alpha = 31^\circ$ ,  $\beta = 27.7^\circ$ ,  $c = 5.2$
3. using law of sines—  $\alpha = 163.9^\circ$ ,  $b = 4.5$ ,  $\gamma = 5.6^\circ$ , using law of cosines—  $\alpha = 159.5^\circ$ ,  $b = 4.5$ ,  $\gamma = 10^\circ$
5.  $\alpha = 52.1^\circ$ ,  $b = 13.1$ ,  $\gamma = 39.9^\circ$
7.  $\alpha = 120^\circ$ ,  $b = 3.5$ ,  $c = 4.8$
9. yes, 1 triangle
11. 66.3 square units
13. 328.1 square units
15. 18.7 square units
17. 55.5 square inches
19.  $x \approx 195.4$  km
21.  $\theta \approx 79.9^\circ$
23.  $x = 6, -6$ —rational